

FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
TOKAI CARBON CB LTD

AUTHORIZING THE OPERATION OF
Big Spring Carbon Black Plant
Carbon Black Manufacturing

LOCATED AT
Howard County, Texas
Latitude 32° 17' 32" Longitude 101° 24' 40"
Regulated Entity Number: RN100226026

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: Q1550 Issuance Date: February 14, 2018

For the Commission

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General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:
 - A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.
 - B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.
 - C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.
 - D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.

- E. Emission units subject to 40 CFR Part 63, Subpart YY as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, §113.560 which incorporates the 40 CFR Part 63 Subpart by reference.
2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):
- A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements
 - B. Title 30 TAC § 101.3 (relating to Circumvention)
 - C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ
 - D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ
 - E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)
 - F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)
 - G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)
 - H. Title 30 TAC § 101.221 (relating to Operational Requirements)
 - I. Title 30 TAC § 101.222 (relating to Demonstrations)
 - J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)
3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:
- A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1, shall not exceed 20% opacity averaged over a six minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:
 - (i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)
 - (ii) Title 30 TAC § 111.111(a)(1)(E)
 - (iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)
 - (iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that

does not obstruct the transmission of light. Vents, as specified in the “Applicable Requirements Summary” attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

- (1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.
- (2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.
- (3) Records of all observations shall be maintained.
- (4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.
- (5) Compliance Certification:
 - (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).
 - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is

determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- (c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. For visible emissions from a building, enclosed facility, or other structure; the permit holder shall comply with the following requirements:

- (i) Title 30 TAC § 111.111(a)(7)(A) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(7)(B)(i) or (ii)
- (iii) For a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source subject to 30 TAC § 111.111(a)(7)(A), complying with 30 TAC § 111.111(a)(7)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:
 - (1) An observation of visible emissions from a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source which is required to comply with 30 TAC § 111.111(a)(7)(A) shall be conducted at least once during each calendar quarter unless the air emission source or enclosed facility is not operating for the entire quarter.
 - (2) Records of all observations shall be maintained.
 - (3) Visible emissions observations of air emission sources or enclosed facilities operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of air emission sources or enclosed facilities operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each emissions outlet in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each emissions outlet during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(4) Compliance Certification:

- (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(7) and (a)(7)(A).
- (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(7)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

C. For visible emissions from all other sources not specified in 30 TAC § 111.111(a)(1), (4), or (7); the permit holder shall comply with the following requirements:

- (i) Title 30 TAC § 111.111(a)(8)(A) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(8)(B)(i) or (ii)
- (iii) For a source subject to 30 TAC § 111.111(a)(8)(A), complying with 30 TAC § 111.111(a)(8)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:
 - (1) An observation of visible emissions from a source which is required to comply with 30 TAC § 111.111(a)(8)(A) shall be conducted at least once during each calendar quarter unless the source is not operating for the entire quarter.
 - (2) Records of all observations shall be maintained.
 - (3) Visible emissions observations of sources operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of sources operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each source in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each source during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer

visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(4) Compliance Certification:

- (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(8) and (a)(8)(A)
- (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(8)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- D. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.
 - E. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:
 - (i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)
 - (ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)
 - (iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)
4. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.

Additional Monitoring Requirements

5. The permit holder shall comply with the periodic monitoring requirements as specified in the attached "Periodic Monitoring Summary" upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities

(including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time or minimum frequency specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

6. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:
 - A. Are incorporated by reference into this permit as applicable requirements
 - B. Shall be located with this operating permit
 - C. Are not eligible for a permit shield
7. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.
8. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

9. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.
10. Use of Discrete Emission Credits to comply with the applicable requirements:
 - A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:

- (i) Title 30 TAC Chapter 115
 - (ii) Title 30 TAC Chapter 117
 - (iii) If applicable, offsets for Title 30 TAC Chapter 116
 - (iv) Temporarily exceed state NSR permit allowables
- B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:
- (i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)
 - (ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4
 - (iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)
 - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122
 - (v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Permit Location

11. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

12. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

New Source Review Authorization References

Applicable Requirements Summary

Unit Summary 11

Applicable Requirements Summary 12

Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
12A	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	111	30 TAC Chapter 111, Visible Emissions	No changing attributes.
13A	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	111	30 TAC Chapter 111, Visible Emissions	No changing attributes.
7A	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	111	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FLARE 1 VENT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
FLARE 2 VENT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
FLARE 3 VENT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
FLARE-1	FLARES	N/A	6580	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FLARE-1	FLARES	N/A	6580	40 CFR Part 63, Subpart A	No changing attributes.
FLARE-2	FLARES	N/A	6580	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FLARE-2	FLARES	N/A	6580	40 CFR Part 63, Subpart A	No changing attributes.
FLARE-3	FLARES	N/A	6580	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FLARE-3	FLARES	N/A	6580	40 CFR Part 63, Subpart A	No changing attributes.

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
12A	EP	111	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
13A	EP	111	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
7A	EP	111	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
FLARE 1 VENT	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
FLARE 2 VENT	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with	The permit holder shall comply with the applicable requirements of 40 CFR	The permit holder shall comply with the applicable	The permit holder shall comply with the applicable	The permit holder shall comply with the applicable reporting

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	Part 63, Subpart YY	monitoring and testing requirements of 40 CFR Part 63, Subpart YY	recordkeeping requirements of 40 CFR Part 63, Subpart YY	requirements of 40 CFR Part 63, Subpart YY
FLARE 3 VENT	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
FLARE-1	EU	6580	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period, except for upset emissions as provided in §101.222(b).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
FLARE-1	CD	6580	112(B) HAPS	40 CFR Part 63, Subpart A	§ 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(i)	Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test Method 22 in App. A of part 60 of this chapter shall be used.	§ 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i)	None	None
FLARE-2	EU	6580	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						period, except for upset emissions as provided in §101.222(b).			
FLARE-2	CD	6580	112(B) HAPS	40 CFR Part 63, Subpart A	§ 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(i)	Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test Method 22 in App. A of part 60 of this chapter shall be used.	§ 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i)	None	None
FLARE-3	EU	6580	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period, except for upset emissions as provided in §101.222(b).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
FLARE-3	CD	6580	112(B) HAPS	40 CFR Part 63, Subpart A	§ 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(i)	Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test Method 22 in App. A of part 60 of this chapter shall be used.	§ 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i)	None	None

Additional Monitoring Requirements

Periodic Monitoring Summary 16

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 12A	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: 111
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Opacity	
Minimum Frequency: Once per month	
Averaging Period: Six-minutes	
Deviation Limit: 15% Opacity	
Periodic Monitoring Text: Opacity shall be monitored, by a certified observer, for at least one, six-minute period in accordance with Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix A, Test Method 9. Any opacity readings above the deviation limit shall be reported as a deviation.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 13A	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: 111
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Opacity	
Minimum Frequency: Once per month	
Averaging Period: Six-minutes	
Deviation Limit: 15% Opacity	
Periodic Monitoring Text: Opacity shall be monitored, by a certified observer, for at least one, six-minute period in accordance with Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix A, Test Method 9. Any opacity readings above the deviation limit shall be reported as a deviation.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 7A	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: 111
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Opacity	
Minimum Frequency: Once per month	
Averaging Period: Six-minutes	
Deviation Limit: 15% Opacity	
Periodic Monitoring Text: Opacity shall be monitored, by a certified observer, for at least one, six-minute period in accordance with Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix A, Test Method 9. Any opacity readings above the deviation limit shall be reported as a deviation.	

Permit Shield

Permit Shield 20

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
CBO-1	N/A	40 CFR Part 60, Subpart K	Constructed prior to 1973
CBO-2	N/A	40 CFR Part 60, Subpart K	Constructed prior to 1973
CBO-3	N/A	40 CFR Part 60, Subpart K	Storage tank does not store a "petroleum liquid" as defined in §60.111.
CBO-4	N/A	40 CFR Part 60, Subpart Ka	Vessel storing a petroleum liquid with a reid vapor pressure < 6.9 kPa and maximum tvp < 6.9 kPa (1.0 psia)
CBO-5	N/A	40 CFR Part 60, Subpart K	Storage capacity less than 40,000 gallons
CBO-6	N/A	40 CFR Part 60, Subpart K	Storage capacity less than 40,000 gallons

New Source Review Authorization References

New Source Review Authorization References	22
New Source Review Authorization References by Emission Unit	23

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Prevention of Significant Deterioration (PSD) Permits	
PSD Permit No.: PSDTX151M2	Issuance Date: 03/05/2019
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 6580	Issuance Date: 03/05/2019
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.183	Version No./Date: 09/04/2000
Number: 106.227	Version No./Date: 09/04/2000
Number: 106.265	Version No./Date: 09/04/2000
Number: 106.266	Version No./Date: 09/04/2000
Number: 106.412	Version No./Date: 09/04/2000
Number: 106.452	Version No./Date: 09/04/2000
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.475	Version No./Date: 09/04/2000
Number: 106.511	Version No./Date: 09/04/2000

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
12A	DRYER STACK	6580, PSDTX151M2
13A	INCINERATOR STACK	6580, PSDTX151M2
7A	DRYER STACK	6580, PSDTX151M2
CBO-1	CBO-1/FEEDSTOCK TANK	106.472/09/04/2000
CBO-2	CBO-2/FEEDSTOCK TANK	106.472/09/04/2000
CBO-3	CBO-3/FEEDSTOCK TANK	106.472/09/04/2000
CBO-4	CBO-4/FEEDSTOCK TANK	106.472/09/04/2000
CBO-5	CBO-5/FEEDSTOCK TANK	106.472/09/04/2000
CBO-6	CBO-6/FEEDSTOCK TANK	106.472/09/04/2000
FLARE 1 VENT	UNIT 1 PRIMARY BAGFILTER FLARE VENT	6580, PSDTX151M2
FLARE 2 VENT	UNIT 2 PRIMARY BAGFILTER FLARE VENT	6580, PSDTX151M2
FLARE 3 VENT	UNIT 3 PRIMARY BAGFILTER FLARE VENT	6580, PSDTX151M2
FLARE-1	U1 PBF FLARE	6580, PSDTX151M2
FLARE-2	U2 PBF FLARE	6580, PSDTX151M2
FLARE-3	U3 PBF FLARE	6580, PSDTX151M2

Appendix A

Acronym List 25

Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM	actual cubic feet per minute
AMOC	alternate means of control
ARP	Acid Rain Program
ASTM	American Society of Testing and Materials
B/PA	Beaumont/Port Arthur (nonattainment area)
CAM	Compliance Assurance Monitoring
CD	control device
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
COMS	continuous opacity monitoring system
CVS	closed vent system
D/FW	Dallas/Fort Worth (nonattainment area)
EP	emission point
EPA	U.S. Environmental Protection Agency
EU	emission unit
FCAA Amendments	Federal Clean Air Act Amendments
FOP	federal operating permit
gr/100 scf	grains per 100 standard cubic feet
HAP	hazardous air pollutant
H/G/B	Houston/Galveston/Brazoria (nonattainment area)
H ₂ S	hydrogen sulfide
ID No.	identification number
lb/hr	pound(s) per hour
MACT	Maximum Achievable Control Technology (40 CFR Part 63)
MMBtu/hr	Million British thermal units per hour
NA	nonattainment
N/A	not applicable
NADB	National Allowance Data Base
NESHAP	National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
NO _x	nitrogen oxides
NSPS	New Source Performance Standard (40 CFR Part 60)
NSR	New Source Review
ORIS	Office of Regulatory Information Systems
Pb	lead
PBR	Permit By Rule
PEMS	predictive emissions monitoring system
PM	particulate matter
ppmv	parts per million by volume
PRO	process unit
PSD	prevention of significant deterioration
psia	pounds per square inch absolute
SIP	state implementation plan
SO ₂	sulfur dioxide
TCEQ	Texas Commission on Environmental Quality
TSP	total suspended particulate
TVP	true vapor pressure
U.S.C.	United States Code
VOC	volatile organic compound

Appendix B

Major NSR Summary Table 27

Major NSR Summary Table

Permit Numbers: 6580 and PSDTX151M2					Issuance Date: March 5, 2019		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
SF-1	Secondary Filter	PM ₁₀	2.40	10.50	6, 8	6, 8, 19	20
SF-2	Secondary Filter	PM ₁₀	1.50	6.60	6, 8	6, 8, 19	20
SF-3	Secondary Filter	PM ₁₀	1.40	6.10	6, 8	6, 8, 19	20
DF-1A	Dryer Filter Unit No. 1	PM ₁₀	0.10	0.20	6, 8	6, 8, 19	20
DF-1B	Dryer Filter Unit No. 1	PM ₁₀	0.10	0.20	6, 8	6, 8, 19	20
DF-2	Dryer Filter Unit Nos. 2 and 3	PM ₁₀	0.20	0.80	6, 8	6, 8, 19	20
7A	Dryer Stack Unit Nos. 1 and 2	NO _x	41.60	182.30	6, 13, 18	6, 13, 18, 19	13, 20
		CO	739.00	3237.00			
		PM ₁₀	25.00	109.50			
		SO ₂	815.20	3175.10			
		H ₂ S	3.60	14.00			
		C ₂ H ₂	8.50	37.20			
		COS	1.40	5.40			
		CS ₂	5.00	19.40			
12A	Dryer Stack Unit No.3	NO _x	20.00	87.60	6, 13, 18	6, 13, 18, 19	13, 20
		CO	420.00	1840.00			
		PM ₁₀	11.80	51.90			
		SO ₂	333.40	1297.90			
		H ₂ S	1.50	5.70			

Major NSR Summary Table

Permit Numbers: 6580 and PSDTX151M2					Issuance Date: March 5, 2019		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		C ₂ H ₂	4.00	17.50			
		COS	0.60	2.20			
		CS ₂	2.00	7.90			
13A	Incinerator +HRSG	NO _x	132.00	175.70	3, 6, 15, 16,17	3, 15, 16,17,19	14, 17, 20
		CO	501.00	2194.40			
		PM	17.76	74.42			
		PM ₁₀	14.57	60.43			
		PM _{2.5}	13.82	57.14			
		SO ₂	2201.60	8571.70			
		H ₂ SO ₄	12.70	52.21			
		H ₂ S	8.70	34.00			
		C ₂ H ₂	21.60	94.60			
		COS	0.70	2.80			
		CS ₂	4.60	17.90			
		NH ₃	2.39	9.29			
BHU1RRN	Unit 1 Rerun Bag Filter	PM ₁₀	0.26	1.12	6, 8	6, 8, 19	20
		PM _{2.5}	0.26	1.12			

Major NSR Summary Table

Permit Numbers: 6580 and PSDTX151M2					Issuance Date: March 5, 2019		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
BHU2SHIP	Unit 2 Rerun Bag Filter	PM ₁₀	0.18	0.81	6, 8	6, 8, 19	20
		PM _{2.5}	0.18	0.81			
OIL SAMPLE	Carbon black oil feedstock sampling.	VOC	0.01	0.01	18	18, 19	20
BLACK SAMPLE	In-situ carbon black sampling.	PM	0.02	0.02	18	18, 19	20
		PM ₁₀	0.01	0.01			
		PM _{2.5}	0.01	0.01			
SCR FUG	SCR Fugitives (6)	NH ₃	0.19	0.84	12	12	
Maintenance, Startup, and Shutdown (MSS) Emissions							
Flare-1	Flare 1 (5)	NO _x	8.30	3.30	5, 6, 21	5, 6, 19, 21, 24, 28, 30	20, 21, 23
		CO	103.30	40.90			
		PM ₁₀	1.90	0.70			
		SO ₂	595.00	236.00			
		H ₂ S	1.50	0.60			
		C ₂ H ₂	5.70	2.30			
		COS	0.51	0.20			
		CS ₂	1.50	0.60			
Flare-2	Flare 2 (5)	NO _x	6.70	2.70	5, 6, 21	5, 6, 19, 21, 24, 28, 30	20, 21, 23
		CO	78.30	31.00			
		PM ₁₀	1.40	0.60			

Major NSR Summary Table

Permit Numbers: 6580 and PSDTX151M2					Issuance Date: March 5, 2019		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		SO ₂	477.00	189.00			
		H ₂ S	1.20	0.50			
		C ₂ H ₂	4.10	1.60			
		COS	0.50	0.20			
		CS ₂	1.20	0.50			
Flare-3	Flare 3 (5)	NO _x	5.60	2.20	5, 6, 21	5, 6, 19, 21, 24, 28, 30	20, 21, 23
		CO	69.30	27.40			
		PM ₁₀	1.20	0.50			
		SO ₂	449.00	178.00			
		H ₂ S	1.20	0.50			
		C ₂ H ₂	2.70	1.10			
		COS	0.40	0.20			
		CS ₂	1.20	0.50			
13A	Incinerator Stack MSS	NO _x	10.00	0.35	6	6, 19, 25, 27, 28, 29	20
		CO	8.40	0.29			
		VOC	0.55	0.02			
		PM	0.93	0.04			
		PM ₁₀	0.76	0.03			
		PM _{2.5}	0.76	0.03			
		SO ₂	0.06	0.01			
7A / 12A		NO _x	0.21	0.01	6	6, 19, 25, 27, 28, 29	20

Major NSR Summary Table

Permit Numbers: 6580 and PSDTX151M2					Issuance Date: March 5, 2019		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
	Cap for Dryers 7A and 12A MSS	CO	0.20	0.01			
		VOC	0.02	0.01			
		PM ₁₀	0.02	0.01			
		PM _{2.5}	0.02	0.01			
		SO ₂	0.01	0.01			
RVS	Cap for the 13 Reactor Vents	NO _x	2.50	8.31		19, 25, 27, 28, 29	20
		CO	2.10	6.98			
		VOC	0.14	0.46			
		PM ₁₀	0.192	0.63			
		PM _{2.5}	0.192	0.63			
		SO ₂	0.02	0.05			
Can MSS	Solvent and Aerosol Can Usage (greater than 64 ounces per day)	VOC	3.38	1.80		19, 25, 27, 28, 29	20
ORIFICE	Orifice Change out	VOC	0.01	0.02		19, 25, 27, 28, 29	20
REFRACTORY	Recasting furnace refractory	PM	0.03	0.01		19, 25, 27, 28, 29	20
		PM ₁₀	0.02	0.01			
		PM _{2.5}	0.02	0.01			

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
 (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
 (3) NO_x - total oxides of nitrogen
 CO - carbon monoxide
 VOC- volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

PM -	total particulate matter, suspended in the atmosphere, including PM ₁₀ and PM _{2.5} ,
PM ₁₀ -	total particulate matter equal to or less than 10 microns in diameter, including PM _{2.5}
PM _{2.5} -	particulate matter equal to or less than 2.5 microns in diameter
SO ₂ -	sulfur dioxide
H ₂ SO ₄ -	sulfuric acid
H ₂ S -	hydrogen sulfide
C ₂ H ₂ -	acetylene (ethyne)
COS-	carbonyl sulfide
CS ₂ -	carbon disulfide
NH ₃ -	ammonia
MSS-	maintenance, startup, and shutdown

- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
- (5) Only the MSS emissions due to the boiler or steam turbine (or associated equipment and ductwork) which is less than or equal to these flare maximum allowable emission rates are authorized. MSS emissions from the flares due to the failure of a process, process equipment, or pollution control equipment to operate in a normal or usual manner are not authorized by this permit. **(8/11)**
- (6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.



Texas Commission on Environmental Quality Air Quality Permit

A Permit Is Hereby Issued To
Tokai Carbon CB Ltd.
Authorizing the Construction and Operation of
Big Spring Carbon Black Plant
Located at Big Spring, Howard County, Texas
Latitude 32° 16' 28" Longitude -101° 24' 17"

Permit: 6580 and PSDTX151M2

Amendment Date: March 5, 2019

Expiration Date: March 20, 2028



For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)]¹
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources-- Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] ¹
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. ¹

¹ Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Special Conditions

Permit Numbers 6580 and PSDTX151M2

1. This permit covers only those sources of emissions listed in the attached table entitled Emission Sources - Maximum Allowable Emission Rates (MAERT), and those sources are limited to the emission limits and other conditions specified in that attached table. The annual rates are based on any consecutive 12-month period.

If any condition of this permit is more stringent than another condition, then the more stringent condition shall govern and be the standard by which compliance will be demonstrated.

Plant Operations, Fuel Specifications, and Work Practices

2. Tail gas not burned in the dryers shall be sent to the Incinerator EPN: 13A, or to the three Flares, EPNs: Flare-1, Flare-2, and Flare-3. **(3/08)**
3. The incinerator shall meet the following requirements: **(3/08)**
 - A. Operate with a heat recovery steam generator (HRSG) and shall operate with at least 99.3 percent destruction removal efficiency (DRE) of the hydrogen sulfide (H_2S), carbonyl sulfide (COS), and carbon disulfide (CS_2) in the tail gas.
 - B. The incinerator firebox temperature shall be a minimum of 1200 °F and monitored continuously if tail gas is present. The monitoring device should be installed in the combustion chamber or immediately downstream of the combustion chamber.
 - C. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following: **(3/19)**
 - (1) $\pm 0.75\%$ of the temperature being measured expressed in degrees Celsius; or.
 - (2) ± 2.5 degrees Celsius.
 - D. The facility will manually record the pertinent data to demonstrate that the incinerator is operated at the proper conditions if/when the automated recording system fails.
4. The incinerator shall not exceed, when tail gas is present, the following emission limits expressed in parts per million by volume dry (ppmvd) subject to the following specifications: **(3/19)**

Pollutant	Concentration	Averaging Time
Nitrogen oxide	70.0 @ 0% O_2	365-day rolling average
Ammonia (NH_3)	10.0 @ 3% O_2	1-hour average

- A. A startup period is defined as when natural gas is first introduced into the incinerator and ends when the incinerator reaches a steady-state operating temperature of

- 1850°F with tail gas plus 15 minutes. Startup periods are excluded from the concentration limits of this Special Condition.
- B. A shutdown period begins when tailgas is no longer being routed to the incinerator and the temperature is less than 1850°F. Shutdown periods are excluded from the concentration limits of this Special Condition.
 - C. Emissions from maintenance activities are excluded from the concentration limits of this Special Condition.
5. Routing tail-gas to a flare is authorized by this permit only during planned maintenance, start-up, or shutdown (MSS) according to Special Condition Nos. 24 and 25.
- A. The flares shall operate in accordance with Title 40 Code of Federal Regulations (40 CFR) § 63.1103, §63.987, and §63.11(b).
 - B. The presence of a pilot and the associated monitoring will only be required when there is tail-gas being routed to the flare or when the flare is in operation.
 - (1) The presence of a flare pilot flame shall be monitored when in operation using a thermocouple or any other equivalent device to detect the presence of a flame.
 - (2) Each monitoring device shall be accurate to within manufacturer's recommendations and verified at least annually. Each monitoring device shall be verified as fully functional in accordance with the manufacturer's specifications, or other written procedures that provide an adequate assurance that the device is functioning properly.
 - C. The facility will manually record the pertinent data to demonstrate that the flare(s) are being operated at the proper conditions if/when the automated recording systems fail.
6. Opacity of emissions from each stack or vent, except for flares, identified as an EPN on the attached MAERT must not exceed 15 percent averaged over a six-minute period. Each flare shall have no visible emissions except for a period not to exceed five minutes in two consecutive hours. **(8/11)**
- A. Visible emissions shall be recorded for the following:
 - (1) Incinerator Stack (EPN: 13A) and Dryer Stacks (EPN: 7A and EPN: 12A), at least every other weekday except plant holidays. For example, visibility will be recorded on Monday, Wednesday, and Friday of the first week and on Tuesday and Thursday of the second week.
 - (2) Visible emissions shall also be recorded at least every other weekday except plant holidays for each flare (EPNs: Flare-1, Flare-2, and Flare-3) when the flare is in operation.

- (3) Visible emissions shall be recorded for other sources with stacks or vents which have particulate matter emissions limits in the attached MAERT at least once per quarter. **(2/14)**
 - B. The source shall be operating when the visible emissions observation is made.
 - (1) Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point(s).
 - (2) Up to three emissions points may be read concurrently, provided that all three emissions points are within a 70-degree viewing sector or angle in front of the observer.
 - (3) The proper sun position (i.e., at the observer's back) shall be maintained for all emission points, even when viewing multiple emission points.
 - (4) Contributions from uncombined water shall not be included in determining compliance with this condition.
 - (5) Visible emissions observations shall be recorded when they are conducted and each observation must be recorded as either visible emissions observed or no visible emissions observed.
 - (6) Visible emissions observations shall be for at least 5 minutes duration for the flares and at least 15 seconds for other emission points
 - C. Opacity shall be determined for an emission point, except for flares, if visible emissions are observed at that emission point, by 40 CFR Part 60, Appendix A, Reference Method 9 by a certified opacity reader.
 - D. If visible emissions are observed at a flare according to the requirements of Special Condition Nos. 6A and 6B, the visible emissions shall subsequently be determined by 40 CFR Part 60, Appendix A, Reference Method 22 (or alternately, by Reference Method 9) for a period of at least two hours, except that the observation may be terminated as allowed by 30 TAC §111.111(a)(4)(A). **(2/12)**
 - E. Visible emissions of any level from the Incinerator, Dryers, or Flares shall be considered indicative of poor operation of the plant and shall be recorded by the plant operators and the problem leading to the visible emissions shall be corrected within five working days.
7. The feedstock oil sulfur content shall not exceed 4.5 percent by weight. The annual average sulfur content of the feedstock oil shall not exceed 4.0 percent by weight.
- A. Actual emissions of sulfur dioxide (SO₂) shall be calculated by a mass balance approach which assumes that a percentage of the sulfur in the feedstock, which is not accounted for by sulfur in the carbon black product, is converted to SO₂ in the waste gas combustion devices.
 - B. The SO₂ emissions from EPN: 13A shall be calculated according to the following formula:

$$\text{SO}_2 = (\text{SI}-\text{SRB}) \times (64/32) \times 0.993$$

- C. The SO_2 emissions from EPNs: 7A and 12A shall be calculated according to the following formula:

$$\text{SO}_2 = (\text{SI}-\text{SRB}) \times (64/32) \times 0.98$$

- D. SI is sulfur input from feedstock oil, SRB is sulfur retained in the carbon black, 64/32 is the molecular weight ratio of SO_2 to sulfur, and 0.993 and 0.98 is the conversion rate to SO_2 respective to the appropriate waste gas combustion device. The SI and SRB shall be determined by sampling as required by Special Condition No. 18.

(12/99)

8. There shall be a daily visual inspection for fugitive leaks of particulate matter and off-gas from the baghouses and product transfer system. Inspections and repairs shall be documented in an inspection log book as they occur. All leaking components shall be recorded in the inspection log book. Every reasonable effort shall be made to repair leaking components within 15 days after the leak is found. If the repair of a component would require a unit shutdown, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair in the inspection log book. The Texas Commission on Environmental Quality (TCEQ) Executive Director may require early unit shutdown or other appropriate action based on the number and severity of leaks awaiting shutdown. **(2/12)**
9. Natural gas used in all combustion equipment shall be limited to no more than 5 grains total sulfur per 100 dry standard cubic feet on an annual average basis.
10. The Rerun, Shipping, and Vacuum Baghouses (EPNs: BHU1RRN, BHU2SHIP, and BHVACBAG), which vent to the atmosphere, shall have maximum outlet grain loading of 0.01 grains per dry standard cubic foot. **(2/12)**

Aqueous Ammonia (NH_3)

11. The permit holder shall maintain prevention and protection measures for the NH_3 storage system. The NH_3 storage tank area will be marked and protected so as to protect the NH_3 storage area from accidents that could cause a rupture. **(3/19)**
12. The permit holder shall maintain the piping and valves in NH_3 service as follows: **(3/19)**
- A. Audio, visual, and olfactory (AVO) checks for NH_3 leaks shall be made once a day.
 - B. Immediately, but no later than 24 hours upon detection of a leak, following the detection of a leak, plant personnel shall take one or more of the following actions:
 - C. Locate and isolate the leak, if necessary.
 - (1) Commence repair or replacement of the leaking component.

- (2) Use a leak collection or containment system to control the leak until repair or replacement can be made if immediate repair is not possible

Initial Demonstration of Compliance

13. The holder of this permit shall perform sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted to the atmosphere by the Stacks (EPNs: 7A and 12A) and the Incinerator (EPN: 13A). The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense.
 - A. The appropriate TCEQ Regional Office shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting. The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.
 - B. The notice shall include:
 - (1) Date for pretest meeting.
 - (2) Date sampling will occur.
 - (3) Name of firm conducting sampling.
 - (4) Type of sampling equipment to be used.
 - (5) Method or procedure to be used in sampling.
 - C. A written proposed description of any deviation from sampling procedures specified in permit conditions or TCEQ or the U.S. Environmental Protection Agency sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director shall approve or disapprove of any deviation from specified sampling procedures. Requests to waive testing for any pollutant specified in D of this Special Condition shall be submitted to the TCEQ Office of Air, Air Permits Division.
 - D. Air contaminants to be tested for include (but are not limited to) nitrogen oxides (NO_x), particulate matter, carbon monoxide, acetylene, SO₂, H₂S, COS, and CS₂.
 - E. Sampling shall occur within 60 days after completion of construction authorized by this amended permit and at such other times as may be required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office.
 - F. Testing shall be performed when the feedstock input rate for each unit is at the maximum usable rate for achieving the quality specifications of the carbon black being produced at the time.
 - G. Samples of the feedstock oil and produced carbon black from each unit shall be taken while the stack testing required in this condition is being performed. These

samples shall be analyzed for sulfur content and used, together with the stack test data, to determine the DRE of reduced sulfur compounds through the incinerator. This analysis shall appear in the sampling report.

- H. Two copies of the final sampling report shall be forwarded within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions of Chapter 14 of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows: **(1/06)**
 - (1) One copy to the TCEQ Midland Regional Office.
 - (2) One copy to the U.S. Environmental Protection Agency, Region 6.
 - I. Emission testing requirements of this Special Condition was completed on the following dates: **(3/19)**
 - (1) EPN: 7A - December 1996
 - (2) EPN: 12A - December 1996
 - (3) EPN: 13A - December 1996
14. If, after completion of the initial compliance test required by Special Condition No. 13, the incinerator is demonstrated to be operating at significantly greater than 98 percent DRE of reduced sulfur, the permit holder shall submit a permit amendment application to the TCEQ. This amendment will adjust the permitted minimum reduced sulfur DRE, the SO₂ emission calculation methods, and the MAERT to levels statistically consistent with those measured during the initial compliance test. This amendment application must be submitted within 180 days after the completion of the test.

Note: The amendment application was received December 16, 1997. The appropriate changes were made to the permit. **(8/99)**

Supplemental Determination of Compliance (3/19)

15. Within 60 days after startup of the selective catalytic reduction (SCR) unit installed pursuant to the permit amendment issued in response to the PI-1 dated June 13, 2018, the holder of this permit shall perform sampling and other testing as required to establish the actual pattern and quantities of NO_x and ammonia (NH₃) being emitted to the atmosphere by the Incinerator Stack (EPN: 13A). The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. This sampling shall be conducted consistent with the testing requirements of Special Condition No. 13, paragraphs A, B, C, E, F, and H. **(3/19)**

Continuous Determination of Compliance (3/19)

16. The holder of this permit shall install, calibrate, maintain, and operate a Continuous Emissions Monitoring System (CEMS) to measure and record the concentrations of NO_x from the incinerator (EPN: 13A), and diluent gases [O₂ or carbon dioxide (CO₂)

- A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification of 40 CFR Part 60, Appendix B, or an acceptable alternative. If there are no applicable performance specifications in 40 CFR § 60, Appendix B, contact the TCEQ Office of Air, Air Permits Division in Austin for requirements to be met. The CEMS shall comply with the following requirements:
- B. The holder of this permit shall assure that the CEMS meets the applicable quality assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime shall be reported quarterly to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director.
- C. The monitoring data shall be reduced to hourly average values at least once every day, using a minimum of four equally-spaced data points from each one-hour period. At least two valid data points shall be generated during the hourly period in which zero and span is performed.
- D. All monitoring data and quality-assurance data shall be maintained by the source for a period of two years and shall be made available to the TCEQ Executive Director or a designated representative upon request. The hourly average data from the CEMS may be used to determine compliance with the conditions of this permit. Hourly average concentrations shall be summed to tons per year and used to determine compliance with the emission limits of this permit.
- E. The appropriate TCEQ Regional Office shall be notified at least 21 days prior to any required relative accuracy test audit in order to provide them the opportunity to observe the testing.
- F. If the emission monitor fails to meet specified performance, it shall be repaired or replaced as soon as reasonably possible. The replacement procedure should start immediately and any replacement parts should be installed within 30 days (any extension or deviation requires approval from the TCEQ Midland Regional Office).

Ammonia Continuous Demonstration of Compliance (3/19)

- 17. The NH_3 concentration from the incinerator shall be tested or calculated according to one of the methods listed below and shall be tested or calculated according to frequency listed below. Testing for NH_3 slip is only required on days when the selective catalytic reduction (SCR) unit is in operation.
 - A. The permit holder may install, calibrate, maintain, and operate a CEMS to measure and record the concentrations of NH_3 . The ammonia CEMS shall be audited at least once each calendar quarter. The NH_3 concentrations shall be corrected and reported in accordance with the requirements of this permit.

- B. As an approved alternative, the NH_3 slip may be measured using a sorbent or stain tube device specific for NH_3 measurement in the 5 to 10 ppm range. The frequency of sorbent/stain tube testing shall be daily for the first 60 days of operation, after which, the frequency may be reduced to weekly testing if operating procedures have been developed to prevent excess amounts of urea from being introduced in the SCR unit and when operation of the SCR unit have been proven successful with regards to controlling NH_3 slip. These results shall be recorded and used to determine compliance with the requirements of this permit.
- C. If the sorbent or stain tube testing indicates an ammonia slip concentration exceeds 10 ppm for a consecutive one-hour period or the average of one or more sorbent or stain tube tests in an hour, the permit holder shall begin NH_3 testing by either the Phenol Nitroprusside Method, the Indophenol Method, or the EPA Conditional Test Method (CTM) 27 (with the collected sample analyzed by ammonia ion-selective electrode analysis method or ion chromatography) on a quarterly basis, in addition to the weekly sorbent or stain tube testing. The quarterly testing shall continue until such time as the SCR unit catalyst is replaced; or if the quarterly testing indicates NH_3 slip is 10 ppm or less, the Phenol-Nitroprusside/Indophenol/CTM 27 tests may be suspended until sorbent/stain tube testing again indicate 10 ppm NH_3 slip or greater. These results shall be recorded and used to determine compliance with the requirements of this permit.
- D. As an approved alternative to sorbent or stain tube testing or an NH_3 CEMS, the permit holder may install and operate a second NO_x CEMS probe located upstream of the SCR, which may be used in association with the SCR efficiency and NH_3 injection rate to estimate NH_3 slip. This condition shall not be construed to set a minimum NO_x reduction efficiency on the SCR unit. These results shall be recorded and used to determine compliance with the requirements of this permit.
- E. As an approved alternative to sorbent or stain tube testing, NH_3 CEMS, or a second NO_x CEMS, the permit holder may install and operate a dual stream system of NO_x CEMS at the exit of the SCR. One of the exhaust streams would be routed, in an unconverted state, to one NO_x CEMS, and the other exhaust stream would be routed through a NH_3 converter to convert NH_3 to NO_x and then to a second NO_x CEMS. The NH_3 slip concentration shall be calculated from the difference between the two NO_x CEMS readings (converted and unconverted). These results shall be recorded and used to determine compliance with the requirements of this permit.
- F. Any other method used for measuring NH_3 slip shall require prior approval from the TCEQ.

Sampling and Recordkeeping Requirements

- 18. The permit holder shall analyze the feedstock oil and carbon black on a regular basis to determine the sulfur content. This sampling shall occur at least weekly for the first six months following the completion of construction. If the first six months of data do not show a significant variation in weekly values, then the minimum sample frequency may decrease to once per month. The TCEQ Regional Director will determine if there is

significant variation in the data. In addition to the regular sampling required above, sampling shall be conducted when a new supply of feedstock oil enters the plant.

- A. This sampling shall be used to demonstrate compliance with the hourly and rolling average annual emission limits for SO₂. At the end of each sampling period, the permit holder must calculate the total SO₂ emitted for the period and the maximum hourly SO₂ emission rate for the period, which will be reported in units as expressed in the MAERT.
 - B. Feedstock sampling for sulfur content in accordance with this Special Condition is authorized to emit (EPN: OIL SAMPLE) volatile organic compound (VOC) emissions limited to <0.001 lb/sampling event. **(8/11)**
 - C. In-situ manual sampling of carbon black for sulfur content in accordance with this Special Condition is authorized to emit (EPN: BLACK SAMPLE) particulate matter emissions limited to 0.1598 lb PM per ton of material sampled and 0.0756 lb PM₁₀ per ton of material sampled for each carbon black production unit. **(8/11)**
 - D. An evaluation of the emissions factors developed for each of the activities listed in Special Condition Nos. 18.B. and 18.C. will be conducted and documented by the permit holder within 18 months of the issuance of this amendment, and if necessary, updated by permit alteration or amendment, as appropriate. **(8/11)**
19. The holder of this permit shall make and maintain records of:
- A. The production of carbon black from each carbon black production unit in pounds per hour (lbs/hr) and tons per year (TPY). This information will be treated as confidential by the TCEQ.
 - B. The SI rates in lbs/hr to the carbon black units during production of the carbon black recorded in accordance with Special Condition No. 19A. The SI rates shall be determined by using weight percent sulfur in the oil as determined by Special Condition No. 18.
 - C. The SRB rate in lbs/hr for each carbon black production unit for the carbon black that is recorded in accordance with Special Condition No. 19A. The SRB rates shall be determined by using the weight percent sulfur in the carbon black as determined by Special Condition No. 10.
 - D. The maximum hourly SO₂ emission rate and total amount of SO₂ emitted for each sulfur sample period described in Special Condition No. 18. The contribution to SO₂ emissions from each carbon black production unit shall be determined by the procedure defined in Special Condition No. 7.
 - E. A running consecutive 12-month total of SO₂ emissions from EPNs: 7A, 12A, and 13A in TPY, based on the calculations from Special Condition Nos. 18 and 19D. **(8/99)**
 - F. Inspection records and records of corrective actions taken as a result of the maintenance program described in Special Condition No. 8.

- G. A record of the visible emissions or opacity observations according to the schedule specified in Special Condition No. 6 and records of all opacity episodes and actions taken to correct the problems leading to the opacity. **(8/11)**
- H. All periods when tail gas is being routed to the flare, and all such periods during which the flare pilot flame is absent. **(3/07)**
- I. A copy of this permit, which shall be kept at the plant site.
- J. Records of planned MSS activity required in Special Condition Nos. 25 through 27. **(8/11)**
- K. Records of all work practices developed in accordance of Special Condition No. 28. **(8/11)**
- L. Operating records shall be kept for each period of operation in which reactor emissions are routed to EPN: RVS. For each event that emissions are routed to EPN: RVS, the records shall include the start and end date and time, and the duration of emissions in hours. **(8/11)**
- M. Records of the Incinerator firebox temperature to show compliance with Special Condition No. 3B. **(8/11)**

These records shall be maintained on a rolling five-year retention basis, updated at least monthly, and made immediately available upon request to the Executive Director of the TCEQ or a designated representative or any air pollution control program having jurisdiction. The copy of the permit required by this Special Condition shall be kept for the life of the permit. **(8/11)**

- 20. Within 60 days of completion of construction, the holder of this permit shall submit documentation to the TCEQ Midland Regional Office which demonstrates that the facility is in compliance with the recordkeeping conditions of this permit. This documentation shall contain, at a minimum, copies of sampling records of the sulfur in the feedstock oil, copies of sampling records of the sulfur retained in the carbon black product, results of required calculations for hourly and projected consecutive 12-month SO₂ emissions, daily and projected consecutive 12-month carbon black production rates, proposed forms to be used to demonstrate compliance with the recordkeeping requirements of this permit, and a review of compliance with the special conditions of this permit. Any request for extension in time for submitting the required information shall be submitted to the TCEQ Midland Regional Office. **(3/07)**

Note: This documentation was completed December 1998. **(8/99)**

Initial Demonstration of Compliance for Flares

- 21. The holder of this permit shall perform sampling and other testing as required to establish the hydrogen content (and the heat content if the hydrogen content is less than 8 percent) of the flare gas, and the flare tip velocity of the three flares (EPNs: Flare-1, Flare-2, and

Flare-3). The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. **(3/07)**

- A. The appropriate TCEQ Regional Office shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting. The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.
- B. The notice shall include:
 - (1) Date for pretest meeting.
 - (2) Date sampling will occur.
 - (3) Name of firm conducting sampling.
 - (4) Type of sampling equipment to be used.
 - (5) Method or procedure to be used in sampling.
- C. A written proposed description of any deviation from sampling procedures specified in 40 CFR § 60.18(f) or TCEQ or Environmental Protection Agency sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director shall approve or disapprove of any deviation from specified sampling procedures.
- D. Sampling shall occur within 90 days after the issuance of this amended permit and at such other times as may be required by the TCEQ Executive Director or Midland Regional Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office.
- E. Testing shall be performed when the feedstock input rate for each unit is at the maximum usable rate for achieving the quality specifications of the carbon black being produced at the time.
- F. Two copies of the final sampling report shall be forwarded within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions of Chapter 14 of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:
 - (1) One copy to the TCEQ Midland Regional Office.
 - (2) One copy to the U.S. Environmental Protection Agency, Region 6

Maintenance, Start-Up, or Shutdown (MSS)

- 22. Planned MSS activities and related emissions are authorized for the sources and activities described in and limited by the Special Conditions and MAERT of this permit. No other MSS activities and emissions are authorized by this permit for the facilities listed on the Special Conditions or the MAERT. **(8/11)**

23. The holder of this permit shall notify the TCEQ Midland Regional Office by telephone, electronic mail, or in writing at least 24 hours before beginning any planned MSS activity which requires the use of one or more flares. **(8/11)**
24. Venting of tail-gas to a flare is authorized by this permit only for the following planned MSS activities, and shall in no case be authorized to exceed 792 hours annually at each flare:
 - A. Inspections and maintenance, on the schedule recommended by manufacturer, of the steam turbine, the incinerator and heat recovery steam generator, including three days for cool-down and three days for warm-up of the equipment. **(3/07)**
 - B. No more than 48 hours annually at each flare during maintenance or non-emergency repair of the associated tail-gas fan and duct work, excluding software malfunctions or operational error. **(3/07)**
 - C. Boiler inspection or repair of leaking boiler tubes. **(2/14)**
25. The following other planned MSS activities are authorized. **(8/11)**
 - A. The authorized planned MSS activities that result in VOC emissions are as follows: natural gas orifice change outs will result in 0.1678 lb natural gas emissions per event and is limited to 240 events per year. **(2/12)**
 - B. The authorized planned MSS activities that result in PM and PM₁₀ emissions are as follows:
 - (1) Recasting furnace refractory involves mixing powdered castable refractory compound with water in a container, applying the dust free admixture to the walls of a furnace, and allowing the admixture to air dry.
 - (2) The removal and replacement of the filter media from control devices shall be performed in such a manner as to minimize to the extent practicable the re-entrainment of particulate matter captured by the filter media into the atmosphere.
26. A reactor shall not be vented to EPN: RVS when feedstock oil or any fuel other than pipeline quality sweet natural gas is present in the reactor. **(8/11)**
27. Planned MSS activities authorized by Special Condition Nos. 25 and 26 shall be documented.
 - A. Documentation of planned authorized MSS activities shall include at least the following as appropriate: **(2/12)**
 - (1) The process unit at which emissions from the MSS activity occurred, including the emission point number and common name of the process unit;
 - (2) The type of planned MSS activity and the reason for the planned activity;

- (3) The common name and the facility identification number, if applicable, of the facilities at which the MSS activity and emissions occurred;
 - (4) The date and time of the MSS activity and its duration;
 - (5) The estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it.
 - (6) The estimated quantity of each air contaminant emitted, with the data and methods used to determine it.
 - B. All MSS emissions shall be summed monthly and the rolling 12-month emissions shall be updated on a monthly basis.
28. Work practices will be developed, implemented, and documented that are designed to minimize air contaminant emissions during each of these authorized MSS activities by:
- A. limiting the duration of exposure of contaminants to atmosphere while the activities are underway and
 - B. storing the spent materials, where possible, in closed containers until proper disposal.
 - C. The developed work practices shall be modified by the permit holder as found appropriate and maintained current in written form. **(8/11)**
29. An evaluation of the emissions factors developed for each of the activities listed in Special Condition No. 25 will be conducted and documented by the permit holder within 18 months of the issuance of this amendment, and if necessary, updated by permit alteration or amendment, as appropriate. **(8/11)**
30. With the exception of the MAERT emission limits, these planned MSS permit conditions become effective 180 days after this permit amendment has been issued. Emissions shall be estimated using good engineering practice and methods to provide reasonably accurate representations for emissions. The basis used for determining the quantity of air contaminants to be emitted shall be recorded. **(8/11)**

Additional Authorizations (3/19)

31. The following facilities and activities at the site are currently authorized under 30 TAC Chapter 106 and Chapter 116. This list is not intended to be all inclusive and can be altered at the site without changing this permit.

Facility Description	EPN	Registration Number Date	Rule Citation
Manual application (hand wipe cleaning) of cleaning solvents	Sitewide	De minimis	116.119(a)(1)

Facility Description	EPN	Registration Number Date	Rule Citation
containing less than 1% VOC			
Aerosol can puncturing equipment	Sitewide	De minimis	116.119(a)(1)
Aerosol solvent and lubricants usage less than 64 oz. per day	Sitewide	De minimis	116.119(a)(1)
Totally Enclosed dry abrasive blast cleaning cabinets	Sitewide	De minimis	116.119(a)(1)
Application of coatings less than 100 gal per year	Sitewide	De minimis	116.119(a)(1) 116.119(a)(2)
Comfort air conditioning and ventilation systems	Sitewide	De minimis	116.119(a)(1)
Natural Gas Fired Feedstock Oil Preheaters 1 and 2	14 and 15	NA 5/05/1976	106.183 SE 7
Welding/Cutting/Brazing Equipment	Sitewide	NA	106.227
Sanding and grinding using hand held and manually operated machinery	Sitewide	NA	106.265
Remote reservoir parts washers	Sitewide	NA	106.454
Organic and Inorganic liquid loading and unloading	Sitewide	NA	106.472
Carbon Black Oil Tanks	CBO-1 CBO-2 CBO-3 CBO-4	NA	106.472
Standby Generators	Generators 1, 2, 3	NA	106.511

Date: March 5, 2019

Emission Sources - Maximum Allowable Emission Rates

Permit Number 6580 and PSDTX151M2

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
SF-1	Secondary Filter	PM ₁₀	2.40	10.50
SF-2	Secondary Filter	PM ₁₀	1.50	6.60
SF-3	Secondary Filter	PM ₁₀	1.40	6.10
DF-1A	Dryer Filter Unit No. 1	PM ₁₀	0.10	0.20
DF-1B	Dryer Filter Unit No. 1	PM ₁₀	0.10	0.20
DF-2	Dryer Filter Units Nos. 2 & 3	PM ₁₀	0.20	0.80
7A	Dryer Stack Units Nos. 1 & 2	NO _x	41.60	182.30
		CO	739.00	3237.00
		PM ₁₀	25.00	109.50
		SO ₂	815.20	3175.10
		H ₂ S	3.60	14.00
		C ₂ H ₂	8.50	37.20
		COS	1.40	5.40
		CS ₂	5.00	19.40
12A	Dryer Stack Units No. 3	NO _x	20.00	87.60
		CO	420.00	1840.00
		PM ₁₀	11.80	51.90
		SO ₂	333.40	1297.90
		H ₂ S	1.50	5.70
		C ₂ H ₂	4.00	17.50
		COS	0.60	2.20
		CS ₂	2.00	7.90

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
13A	Incinerator + HRSG	NO _x	132.00	175.70
		CO	501.00	2194.40
		PM	17.76	74.42
		PM ₁₀	14.57	60.43
		PM _{2.5}	13.82	57.14
		SO ₂	2201.60	8571.70
		H ₂ SO ₄	12.70	52.21
		H ₂ S	8.70	34.00
		C ₂ H ₂	21.60	94.60
		COS	0.70	2.80
		CS ₂	4.60	17.90
		NH ₃	2.39	9.29
BHU1RRN	Unit 1 Rerun Bag Filter	PM ₁₀	0.26	1.12
		PM _{2.5}	0.26	1.12
BHU2SHIP	Unit 2 Rerun Bag Filter	PM ₁₀	0.18	0.81
		PM _{2.5}	0.18	0.81
OIL SAMPLE	Carbon Black Oil Feedstock Sampling	VOC	0.01	0.01
BLACK SAMPLE	In-situ Carbon Black Sampling	PM	0.02	0.02
		PM ₁₀	0.01	0.01
		PM _{2.5}	0.01	0.01
SCR FUG	SCR Fugitives (6)	NH ₃	0.19	0.84

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
Maintenance, Startup, and Shutdown Emissions				
Flare-1	Flare 1 (5)	NO _x	8.30	3.30
		CO	103.30	40.90
		PM ₁₀	1.90	0.70
		SO ₂	595.00	236.00
		H ₂ S	1.50	0.60
		C ₂ H ₂	5.70	2.30
		COS	0.51	0.20
		CS ₂	1.50	0.60
Flare-2	Flare 2 (5)	NO _x	6.70	2.70
		CO	78.30	31.00
		PM ₁₀	1.40	0.60
		SO ₂	477.00	189.00
		H ₂ S	1.20	0.50
		C ₂ H ₂	4.10	1.60
		COS	0.50	0.20
		CS ₂	1.20	0.50
Flare-3	Flare 3 (5)	NO _x	5.60	2.20
		CO	69.30	27.40
		PM ₁₀	1.20	0.50
		SO ₂	449.00	178.00
		H ₂ S	1.20	0.50
		C ₂ H ₂	2.70	1.10
		COS	0.40	0.20
		CS ₂	1.20	0.50

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
13A	Incinerator Stack MSS	NO _x	10.00	0.35
		CO	8.40	0.29
		VOC	0.55	0.02
		PM	0.93	0.04
		PM ₁₀	0.76	0.03
		PM _{2.5}	0.76	0.03
		SO ₂	0.06	0.01
7A/12A	MSS Cap for Dryers 7A & 12A	NO _x	0.21	0.01
		CO	0.20	0.01
		VOC	0.02	0.01
		PM ₁₀	0.02	0.01
		PM _{2.5}	0.02	0.01
		SO ₂	0.01	0.01
RVS	Cap for the 13 Reactor Vents	NO _x	2.50	8.31
		CO	2.10	6.98
		VOC	0.14	0.46
		PM ₁₀	0.192	0.63
		PM _{2.5}	0.192	0.63
		SO ₂	0.02	0.05
CanMSS	Solvent/Aerosol Can Usage >64 oz./day	VOC	3.38	1.80
ORIFICE	Orifice Changeout	VOC	0.01	0.02
REFRACTORY	Recasting furnace refractory	PM	0.03	0.01
		PM ₁₀	0.02	0.01
		PM _{2.5}	0.02	0.01

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) NO_x - total oxides of nitrogen
CO - carbon monoxide

Emission Sources - Maximum Allowable Emission Rates

VOC	- volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
PM	- total particulate matter, suspended in the atmosphere, including PM ₁₀ and PM _{2.5} ,
PM ₁₀	- total particulate matter equal to or less than 10 microns in diameter, including PM _{2.5}
PM _{2.5}	- particulate matter equal to or less than 2.5 microns in diameter
SO ₂	- sulfur dioxide
H ₂ SO ₄	- sulfuric acid
H ₂ S	- hydrogen sulfide
C ₂ H ₂	- acetylene (ethyne)
COS	- carbonyl sulfide
CS ₂	- carbon disulfide
NH ₃	- ammonia
MSS	- maintenance, startup, and shutdown

- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
- (5) Only the MSS emissions due to the boiler or steam turbine (or associated equipment and ductwork) which is less than or equal to these flare maximum allowable emission rates are authorized. MSS emissions from the flares due to the failure of a process, process equipment, or pollution control equipment to operate in a normal or usual manner are not authorized by this permit. **(8/11)**
- (6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: March 5, 2019